

Application No.: 10/648023
Docket No.: AD6910USNA

Page 2

Claims

Claim 1. (Original) In a process for welding a first polymeric object to a second polymeric object utilizing laser radiation, wherein said first polymeric object is relatively transparent to said laser radiation and said second object is relatively opaque to said laser radiation, said first and second objects each presenting a faying surface, said first object presenting an impinging surface, opposite said faying surface thereof; said process including the steps of bringing the faying surfaces of said first and second objects into physical contact so as to form a juncture therebetween and irradiating said first and second objects with said laser radiation such that said laser radiation impinges the impinging surface, passes through said first object and irradiates said faying surface of said second object, causing said first and second objects to be welded at the juncture of the faying surfaces, the improvement comprising:

said first polymeric object being formed from a polymeric component comprising: (i) poly(ethylene terephthalate); and

(ii) one or more nucleating agents;

said one or more nucleating agents each being characterized in the fact that they absorb no more than 7% of their weight in water;

said one or more nucleating agents being present in said polymeric component in an amount sufficient such that said polymeric component has a crystallization half time of less than 20 minutes at a temperature of 105 °C when measured by differential scanning calorimetry; and

said first polymeric object exhibits, through a thickness between said faying surface of said first object and said impinging surface, a diffuse transmittance of at least 15% of said laser radiation.

Claim 2. (Original) The improvement of Claim 1 further comprising said one or more nucleating agents being selected from the group consisting of sodium montanate, sodium stearate, sodium-neutralized aliphatic carboxylic acids with 12 - 40 carbon atoms and sodium PET.

Claim 3. (Original) The improvement of Claim 1 wherein said one or more nucleating agents has a number average molecular weight less than about 5,000.

Claim 4. (Original) An article of manufacture that is welded by the improved welding process of Claim 1.

Application No.: 10/648023
Docket No.: AD6910USNA

Page 3

Claim 5. (Original) An article of manufacture in accordance with Claim 4 selected from the group consisting of housings, including those for electrical and electronic sensors and headlamps, pumps, motors, valves, displays, and inkjet cartridges and connectors and couplings.